700 TVL IR Vandal Proof Analog Dome Camera

User’s Manual

Version 1.0.0

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Welcome

Thank you for purchasing our analog camera!
This user’s manual is designed to be a reference tool for your system.
Please read the following safeguard and warnings carefully before you use this series product!
Please keep this user’s manual well for future reference!

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated 12V DC (24V AC) in the IEC60950-1.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Do not apply power to the camera before completing installation.
Please install the proper power cut-off device during the installation connection.
Always follow the instruction guide the manufacturer recommended.
If this product is installed in the ceiling, please make sure the installation position can sustain the min 50N.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

This series camera should be installed in a cool, dry place away from direct sunlight or strong light, inflammable, explosive substances and etc.
The working temperature ranges from -30℃ ~ to +60℃. Please keep it away from the electromagnetic radiation object and environment.
Please keep the sound ventilation.
Do not allow the water and other liquid falling into the camera.

6. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

7. Daily Maintenance

Please shut down the device and then unplug the power cable before you begin daily maintenance work.

Use the dry soft cloth to clean the device.
If there is too much dust, please use the water to dilute the mild detergent first and then use it to clean the device. Finally use the dry cloth to clean the device.
Please put the dustproof cap to protect the CCD (CMOS) component when you do not use the camera.

1 General Introduction

1.1 Overview

This series analog camera adopts the high sensitivity CCD and advanced circuit design. It is featuring the high quality video, the lowest distortion, low noise and etc. This series product is suitable to be used in surveillance system and video process system.

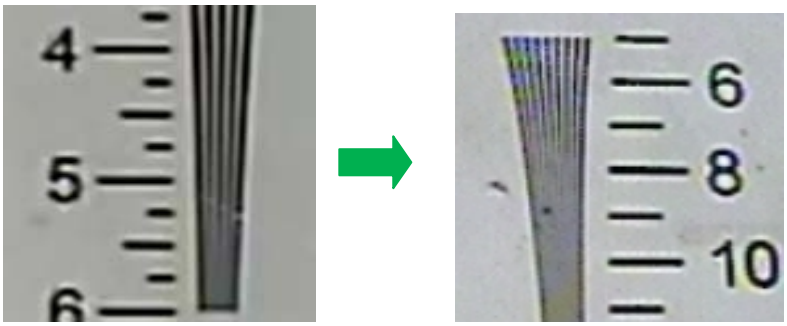
1.2 Features

- High-performance SONY CCD, high resolution, 700TVL, vivid and impressive video.
- Support auto white balance, ANTI CR (anti-color roll), manual control, push lock, and etc. Restore high definition and vivid video.
- Support privacy mask function. Set zone color, transparent, mosaic and etc.
- Support motion detect function. Set zone sensitivity, block display and etc.
- Support backlight compensation, high light compensation, close and etc according to the actual environments.
- Support ATR (digital WDR) function.
- Support auto electronic gain control, self-adaptive brightness.
- Support OSD (on-screen display), suitable for user self-defined setup.
- Support various languages such as English.
- Support IR function.
- Support RS-485 communication protocol.

1.3 Functions

High Definition

700 TVL

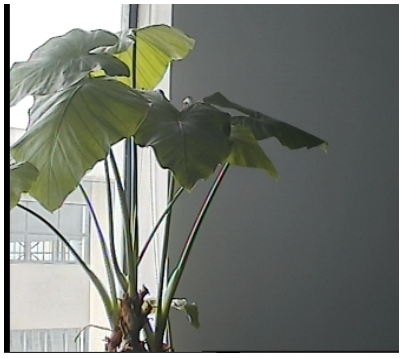


540TVL **700TVL**

ATR and ATR-EX

ATR (Adaptive Tone-curve Reproduction) function allows the camera to digitally calculate the video color again and then adjust the brightness to enhance the video quality. This function can effectively enhance the color and black zone of the video when there is sharp light contrast in the environments.

General Camera



ATR Camera

IR function

This series product can use the IR light to allow you to see the object or realize the monitor in the low illumination environment.

General Camera

IR Camera

1.4 Specifications

Please refer to the following sheet for specification.

Model / Parameter	700 TVL IR Vandal Proof Dome Camera	
	CA-DBW480BP/N(-A)	CA-DBW481BP/N(-A)
Video Processor	1/3" SONY EXview HAD CCD Ⅱ	
Video Format	PAL/NTSC	
Effective Pixel	PAL: 976(H)*582（V） NTSC: 976(H)×494（V）	
Resolution	700TVL	
Min Illumination	Color: 0.005Lux/F1.4（0Lux IR light on.）	

Electronic Shutter		PAL Auto: 1/50s~1/100,000s Manual: 1/50s,1/120s,1/250s,1/500,1/1000s,1/2000s, 1/4000s,1/10,000s
		NTSC Auto: 1/60s~1/100,000s Manual: 1/60s,1/100s,1/250s,1/500,1/1000s,1/2000s, 1/4000s,1/10,000s
Lens Type		φ14 port 2.8-12mm zoom auto aperture lens andφ14 port 4-9mm zoom auto aperture lens.
Day/Night Switch		Auto
Video Output		1Vp-p Composite Output (75 Ohm/BNC)
SNR		Above 65 dB(AGC OFF)
Max IR Distance		20m.
OSD Menu Control		Support
OSD	**LENS**	Auto/Manual
	SHUTTER/AGC	Auto/Manual
	BACKLIGHT (BLC)	Off/BLC/HLC(High light compensation)
	WHITE BALANCE	ATW / ANTI CR /manual/push lock/push/user 1/user 2
	DAY/NIGHT MODE	Auto/black and white/color
	PICTURE ADJUST	Mirror/brightness/contrast/sharpness/hue/gain
	ATR	Off/luminance/contrast
	MOTION DETECT	Detect sensitivity/block display/area selection
	PRIVACY MASK	Area selection/color/transparent/mosaic
	NR	Level/Y level/C level
	SYNC	INT
	Camera ID	Character/position
	Language	English/Japanese and etc
Communication Port		RS-485
Protection Level		IP66
Working Temperature		-30℃~+60℃
Power		DC12V±10%

	(-A) series product support AC24V±10%/DC12V±10%.
Power Consumption	4W Max
Dimension(mm)	Φ160×118.5
Weight	980g(-A:1000g)

2 Framework

2.1 Dimensions

Please refer to the following figure for the dimension information. The unit is mm. See Figure 2-1.

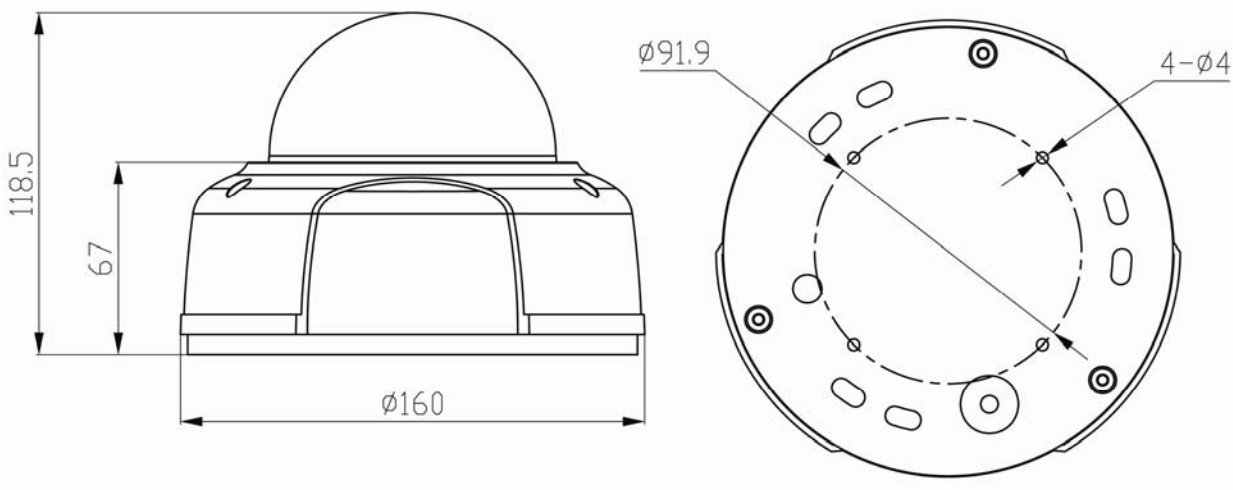


Figure 2-1

2.2 Structure

Please refer to the following figure for detailed information. See Figure 2-2.

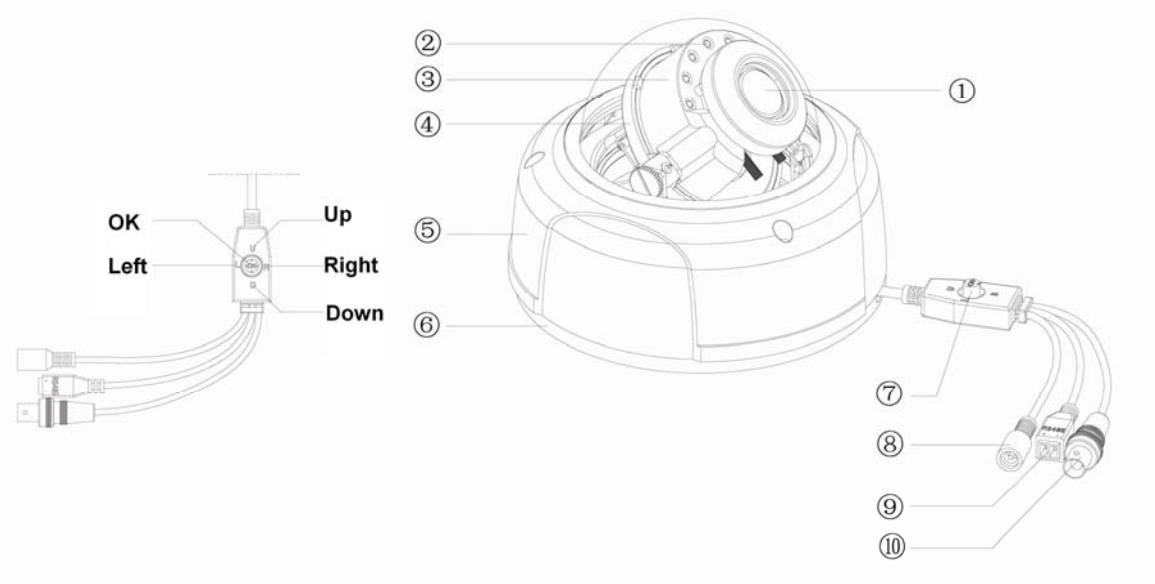


Figure 2-2

Please refer to the following sheet for detailed information.

SN	Component Name	Function
1	Device lens	/
2	IR Light	It is to send out the IR compensation light to enhance the night vision.

SN	Component Name	Function
3	Dome internal Enclosure	/
4	X-Y-Z axis module.	X-Y-Z axis module to realize 360° monitor.
5	Dome camera enclosure	/
6	Dome camera pedestal	/
7	5-direction buttons	These five buttons are for OSD menu operation. Please use the up/down button to select the item and use the left/right button to select the option. The button in the middle is to confirm current operation.
8	Power input port	Connect to the DC 12V power to input the power.
9	RS-485 port	Connect to devices such as DVR, keyboard to realize remote control via this port.
10	Video output port	BNC port is to output analog video signal. You can connect to the devices such as the DVR or the NVR.

3 Installation

The dome camera usually mainly uses the in-ceiling installation.

Important

Please make sure the installation surface can min support the 3X weight of the camera and the bracket.

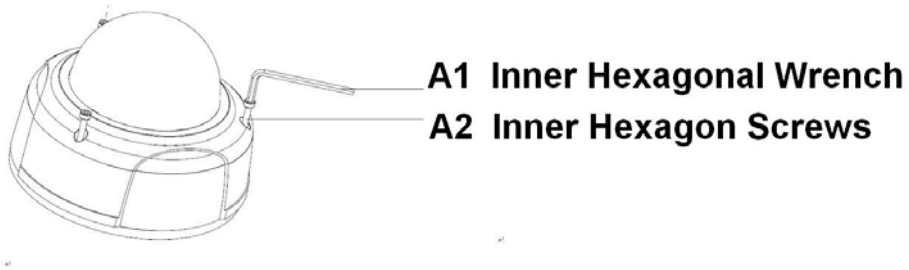


Figure 3-1

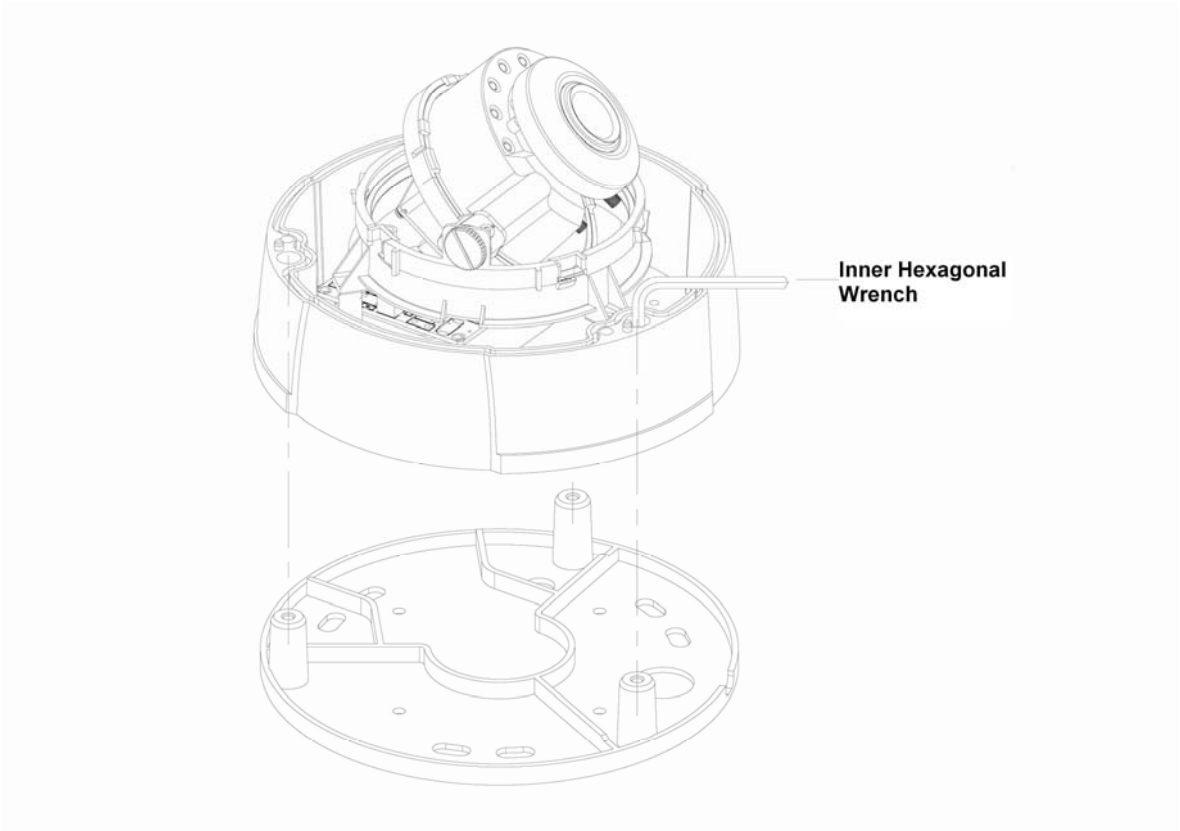


Figure 3-2

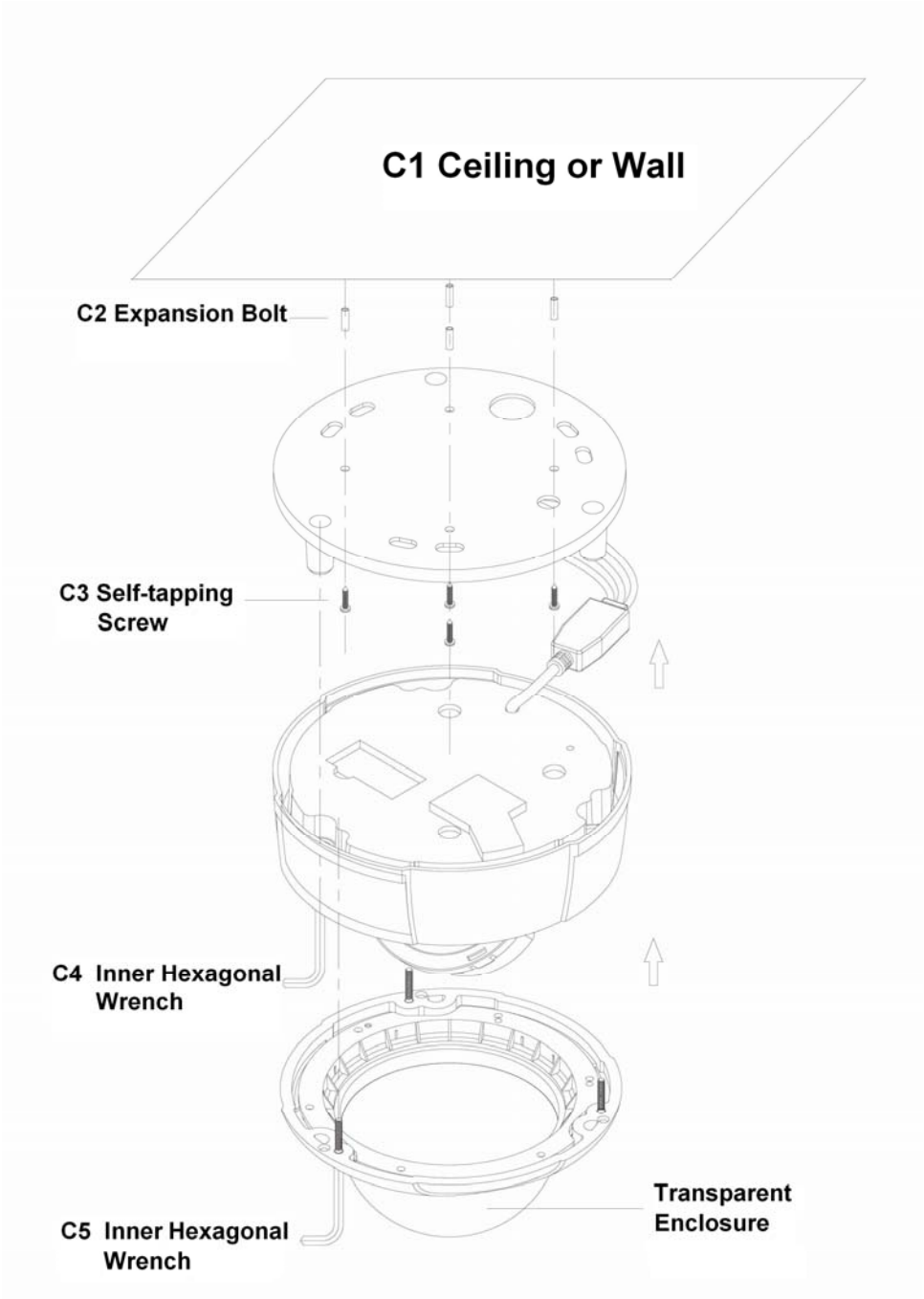

C1 Ceiling or Wall
C2 Expansion Bolt
C3 Self-tapping Screw
C4 Inner Hexagonal Wrench
C5 Inner Hexagonal Wrench
Transparent Enclosure

Figure 3-3

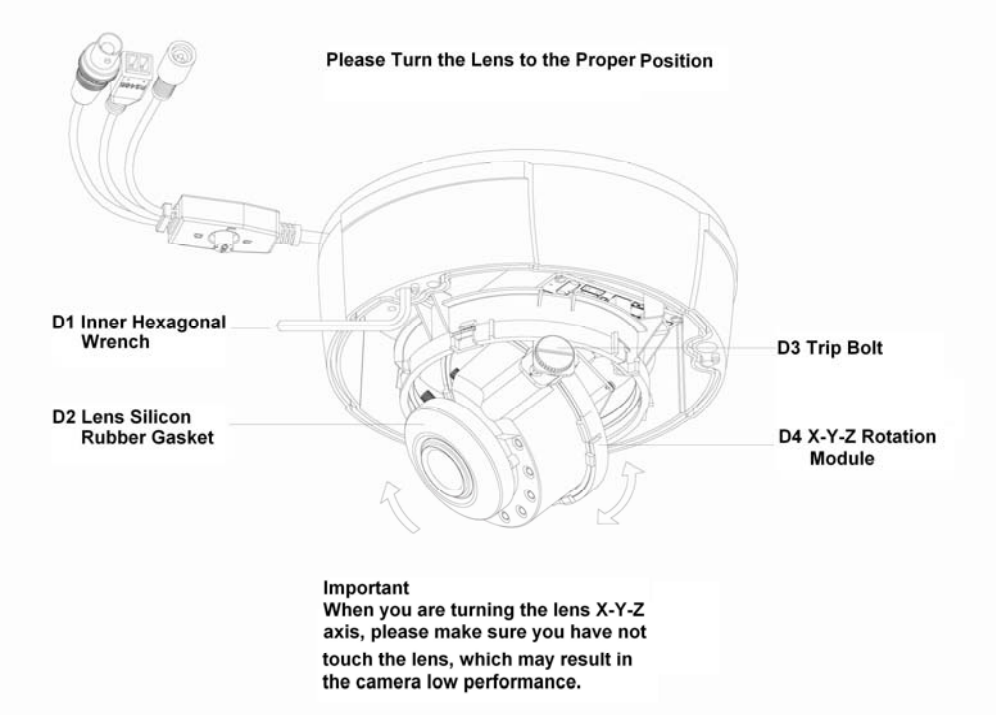

Please Turn the Lens to the Proper Position
D1 Inner Hexagonal Wrench
D2 Lens Silicon Rubber Gasket
D3 Trip Bolt
D4 X-Y-Z Rotation Module
Important
When you are turning the lens X-Y-Z axis, please make sure you have not touch the lens, which may result in the camera low performance.

Figure 3-4

Step 1

Use the inner hexagonal wrench (provided) to loose the three inner hexagon screws in the dome cover and then open the cover. See Figure 3-1.

Step 2

Use the inner hexagonal wrench (provided) to loose the three inner hexagon screws in the dome and then remove the device installation pedestal. See Figure 3-2.

Step 3

Take out the installation location map from the accessories bag and then paste it on the ceiling or the wall to identify the installation area. Draw out the cable exit and four plastic expansion bolt holes in the installation position according to the device pedestal. Dig the four plastic expansion bolt holes and cable exit. Insert the four plastic expansion bolts into the screw holes. See Figure 3-3.

Step 4

Adjust the device installation pedestal to the proper position and then draw the cable through the cable exit you just dug in the ceiling (wall). Line up the four screw holes in the device pedestal to the four plastic expansion bolt holes in the installation position. Put the four self-tapping screws in the four plastic expansion bolts firmly. See Figure 3-4.

Step 5

Adjust the device position and then line up the three inner hexagon screws of the device to the three holes in the installation ceiling (wall). Put the three inner hexagon screws to the screw holes of the device pedestal and then use the inner hexagonal wrench to secure firmly.

Step 6

Loose the trip bolt and then turn the X-Y-Z rotation module to adjust the camera lens to the proper monitor angle.

Step 7

Use the inner hexagonal wrench to secure three hex screws at the top cover to complete the installation.

Now you have completed dome camera installation and cable connection.
You can use the terminal devices such as the DVR, NVS and etc to view the monitor video.

4 Menu

4.1 Main Menu List

Please refer to the following sheet for menu information.

THE 1st MENU		THE 2ND MENU	
LENS①	AUTO↵	TYPE	DC、VIDEO
		MODE	AUTO. ON, OFF
		SPEED	
	MANUAL		
SHUTTER AGC	AUTO ↵	HIGH LUMINANCE	
		MODE	SHUTTER+AUTO IRIS AUTO IRIS
		BRIGHTNESS	0~255
		LOW LUMINANCE	
		MODE	AUTO GAIN OFF
		BRIGHTNESS	×0.25~×1.00
	MANUAL ↵	MODE	SHUTTER+AGC
		SHUTTER	1/50~1/10,000
		AGC	6.00~44.80
WHITE BALANCE	USER1↵	B-GAIN	0~255
		R-GAIN	0~255
	USER2↵②	B-GAIN	0~255
		R-GAIN	0~255
	ANTI CR		
	MANUAL↵	LEVEL	018~040
	PUSH		
	PUSH LOCK		
	ATW↵	SPEED	0~255
		DELAY CNT	0~255
		ATW FRAME	×0.50~×2.00
		ENVIRON MENT	INDOOR OUTDOOR
BACKLIGHT	OFF		
	BLC		
	HLC		
PICT ADJUST	↵	MIRROR	ON,OFF
		BRIGHTNESS	0~255
		CONTRAST	0~255
		SHARPNESS	0~255
		HUE	0~255
		GAIN	0~255
ATR	ON↵	LUMINANCE	LOW MIDDLE HIGH

THE 1st MENU		THE 2ND MENU	
ATR	ON↵	CONTRAST	LOW MIDLOW MID MIDHIGH HIGH
	OFF		
MOTION DETECT	ON↵	DETECT SENSE	000~127
		BLOCK DISPLAY	ON/OFF/SET ↵
		MONITOR AREA	ON OFF
		AREA SEL	1/4~4/4
		TOP	000~288
		BOTTOM	000~288
		LEFT	000~468
		RIGHT	000~468
	OFF		
PRIVACY MASK	ON ↵	AREA SEL	1/4~4/4
		TOP	000~288
		BOTTOM	000~288
		LEFT	000~468
		RIGHT	000~468
		COLOR	1~8
		TRANSPARENT	0.00~1.00
		MOSAIC	ON OFF
	OFF		
DAY/NIGHT	AUTO ↵	BURST	ON OFF
		DELAY CNT	000~255
		DAY→NIGHT③	000~255
		NIGHT→DAY④	000~255
	B/W ↵	BURST	ON OFF
	COLOR		
NR	↵	NR MODE	OFF,Y/C,Y,C
		Y LEVEL	000~015
		C LEVEL	000~015
CAMERA ID⑤	ON↵		
	OFF		
SYNC	INT		
LANGUAGE⑥	ENGLIISH		
CAMERA RESET			

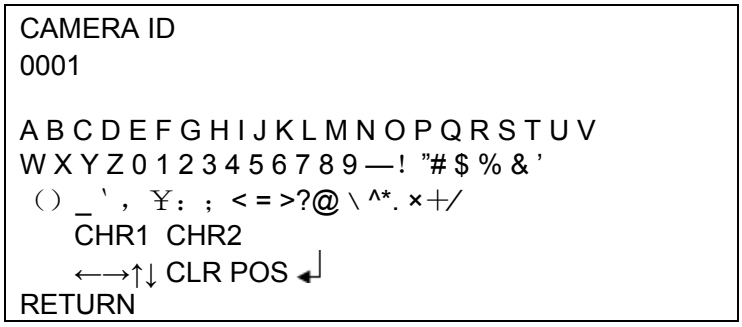
4.2 Menu Note

①: The different series products support various lens. Please refer to the specifications for detailed information.

②: The user2 setup is the same with the user1.

③④：In day-night mode, the smaller the value is, and the hard for the camera to switch to the black and white mode. In night-day mode, the larger the value is, and the hard for the camera to switch to the color. Here we recommend the default value. If the system switches back and forth when you are using, please set the value in night-day mode larger and the value in the day-night mode smaller.

⑤：CAMERA ID



CHR1: Library 1.
CHR2: Library 2.
←→↑↓: Select the character you want to modify.
CLR: Clear current character.
POS ↵: Select it to go to the camera mask position interface.

⑥： The parameter includes: English, French, German, Russian, Portuguese, Spanish, Chinese and Japanese. The default setup is English.

Important
After you completed the setup, please click the “SAVE ALL” button to save current setup and then exit the menu. It is to guarantee the camera setup after the power failure.

Appendix Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Circuit Board Component	○	○	○	○	○	○
Device Construction Material	○	○	○	○	○	○
Wire and Cable	○	○	○	○	○	○
Packing Components	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Note

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website or contact your local service engineer for more information.**